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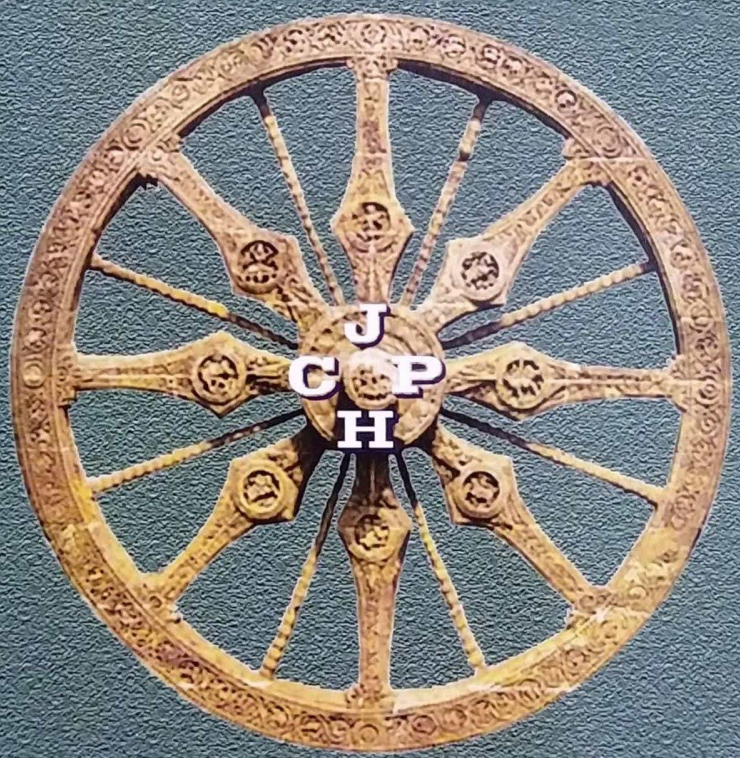

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Contents

Science, Medicine and Rabindranath Tagore: An Analytical Study

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Abstract: *There is no definite boundary of knowledge. If the command is scientific, then it is not just that boundaries; it has no obstruction. Not only in practical life but in the world of philosophical thought, no one can monopolize science. Science resides in everything from a blacksmith's hammer to sending a satellite into space. Then comes the discussion of science in the world of philosophical thought. First of all, this idea is inaccurate, that the concept of science will only be science-centric. Gurudev Rabindranath Tagore was the first to bring this idea to our notice. The extra credit we get in this case is the language's past excitement. We can get the scent of this taste by studying the material written by him. The past affluence of language and one fluency of language increases our anxiety in every line. In his writing, we can find an excellent combination of the juice of literature and the analytical knowledge of science. Gurudev has continued to use science not only in his writings but also in his thoughts and practices. Sometimes in the treatment of the influenza virus in Shantiniketan, sometimes in the reconstruction of rural society, sometimes in the connection of modern science in Indian education, we find an excellent combination of Rabindranath and science. This article has tried to give a periodic and analytical explanation of Rabindranath's scientific thought. In the first part of the article, It has been interpreting that Rabindranath's ideas and applied science. In the last part of this article, we can find the juice of science in his writing.*

Keywords: Science and Medicine, Rabindranath Tagore, Panchatikta Panchan, Ayurvedic Medicine, Influenza.

The name Rabindranath Tagore has an emotion among the Bengalis. We could not cast the name on any single mold of an idea. The propagation of his thoughts was boundless. On one side, he was a writer, novelist, painter, and on the other hand, he has left his reflection in the work of rural reconstruction. Although more or less, we have frowned when establishing a relationship between literature and science. Nevertheless, Tagore tried to connect his world of abstract thought with substantial scientific knowledge, even as a poet. So we can enjoy the test of a mixture of literature and scientific

knowledge through his writing. He commented that 'this is the infinite perspective of human personality where man finds his religion. Science may include the starry world and the world beyond it in its field of knowledge[1]. We will find a background of Tagore's scientific thought and the development of his western ideas in the history of 'Thakur Bari.' He was born on 7th May 1869 in a splendid zamindar family of Gobindapur. Before the birth of R.N.Tagore, the British Government launched an unintentional attempt at westernization in India. The members of 'Thakur Bari' were actively supported the British Government in achieving this objective. A vast amount of zamindari money was donated to promote Western medicine and science education to build colleges and schools. His father, Debendranath Tagore, was highly influenced by the Brahmasamaj, formed under the leadership of Raja Rammohan Roy.

Tagore and The Development of Scientific Knowledge in Indian Education

Alexander Duff wrote the book "India and The Indian Mission" on converting upper-class Hindus to Christianity with the help of English and Western Education. In protest of this, Tattvabodhini Pathshala and Hindutirtha Vidyalaya have established the initiative of Debendranath Tagore. He was pretty enthusiastic about science education as well as the western education of Bengalis. He gave seven hundred rupees to Sitanath Ghosh to buy scientific equipment, and also he helped Dr. Mahendralal Sarkar financially by establishing the 'Association for the Cultivation of Science'. He published a book in 1893 entitled "The Advancement of Knowledge and Religion," He analyzed the subjects of astronomy, life sciences, expressionism.[2] Also, the very member of the zamindar family, irrespective of gender, was inspired by western modernity. Suppose we think Rabindranath Tagore, a boy who grew up in this contemporary society of the western storm, was not influenced by modern western thought and scientific knowledge. Then that will be the identity of imbecility.

To encourage the movement of Brahma Samaj and as a meditate, on center, Debendranath Tagore established "Shantiniketan" at Birbhum district in1863. Rabindranath Tagore came to Shantiniketan at 12, where he learned Sanskrit, English, and Astronomical knowledge. At the age of 17, he has sent to London to study for the Indian Civil Service on advocacy. However, he came back only after completing the English literature within Eight months. The experience of this journey he applied to the educational enhancement.[3] The help of a group of young workers, Tagore attempted to extend this work's scope and tackle rural problems in a mere systematic fashion. The workers lived in different villages in intimate contact with the people trying to organize them to tackle their problems jointly. Workers and villagers co-operated in carrying out such works as repairing roads and drains, excavating tanks, clearing the jungle. A weaving school has established, and to improve the economic condition of the people, several new businesses have

started like jute and cloth trade, brick kilns, sugar crushing mill in Kusthea, and also an attempt was made to introduce new commercial crops like potato. A particular focus had paid to the spread of education. Three schools were established in addition to a girl's school. A total number of 200 Pathshala or Lower Primary Schools was also established, where teaching has done day and night. All villagers, including children and older adults, came here to study. The school tried to remove illiteracy and make the students familiar with the alphabet recognized as the first task. Progress had been made in reading, writing, and reasoning or arithmetic. That is the theory of 3R. It was considered the right time to take the lesson of History, Geography, and Oral lessons on First Aid, Improvement of Agriculture, On fire Fighting, Social duties in times of floods, etc.[4]

For the up-gradation of Sriniketan, an attempt was made to establish a model farm for the cultivation. (Sen, 1943). In 1920 Tagore met with Mr. Leornard K. Elmhurst, a young Cambridge graduate. He was so impressed by Tagore's rural reconstruction that he expressed his willingness to join the program. In early 1922 Mr. Elmhirst established The Institute of Rural Reconstruction in Sriniketan to train the workers and cultivators. He also established a small laboratory to carry out experiments to improve the rate of production in the particular soil types and climatic conditions of the villages. Improved varieties of horticulture plants were procured and distributed after imparting improved methods of cultivation to the villages. Rabindranath Tagore established a rural bank to pave the poor rural farmers from middle man and moneylenders to high-interest rates. Also, he introduced the experiment of tractor for cultivation furnace for potteries and ceramics, a husking machine of paddies which proves his scientific bent of mind. [5]

Two branches of education maintain the educational up-gradation in Sriniketan. At first, "Shikha Sastra" was for village students under eight, and another was "Shikha Charcha Bhavana," a training school for village teachers. The trainees received regular instructions in music, agriculture, hygiene, sanitation, scouting principles of rural reconstruction, and another cognate subject. Not only the educational up-gradation but an Agricultural Department also formed consists of a farm and dairy. Experiments with new crops were made by farms and stimulated animal husbandry along scientific lines made by the dairy. Shilpa Bhavana or Industrial Department must attempt to revive old cottage industries and introduce new ones that suit local conditions. The maternity and child welfare section was also established in 1940. Several co-operative health Societies provided medical treatment at a moderate cost. They positively maintain the anti-malaria scheme "Prevention is better than cure" [6]

Interaction with Universal Scientific Knowledge

On 22nd December 1901, Rabindranath Tagore wanted to establish a

Brahmanical Ashram Vidyalaya with some students at Shantiniketan. He went to London in 1912. In 1913, after receiving the Nobel Prize, he delivered some lectures in America and Japan. As a result, he has associated himself with the idea of the modern world. This universal thought helped him to prepare the context for the founding of Visva Bharati on 24th December 1918. Erasing the superstition of contemporary society through the traditional education system will not be an easy task. That is why he received the Universal Education System with a worldwide and scientific concept. Where agriculture, health, medicine, economics, farming education, and training are also taught with a regular subject in the premises of Visva-Bharati. In integrating Indian and Universal Scientific education, Rabindranath Rabindranath thought that the only way to improve India was to involve oneself in scientific thought and philosophy of science.

Because the only way to improve in all fields like social, economic, political is the combination of modern and scientific thought. He spoke of Western society in this case. But Tagore wanted science to be taught along with India's own philosophical and spiritual knowledge at Indian universities. For the sake of science, so many paths have opened in the sky, so many chariots have run, that the fence of the earth is no more today. Not only the different people but also different nations came together to evaluate the society. At this time, the problem of human truth became bigger; who will unite those who have gathered the scientific power? It will be better for a human being to evaluate himself. Otherwise, it is a disaster. That catastrophe happened today. The external force of unification continued to hoarse; the internal force of unification lagged like an engine runs a car, but the poor driver ran behind the car with shouting, Hey! However, I could not reach it. However, one group of people was happy to see the speed of the engine and said, well done! That is what progress is all about. On the other hand, we, the good people of the east who are sauntering, can still not cope with the push of that progress. Because those who come close, even in the distance, if they are fickle matter, they keep on informing their presence by constant pausing. This pus is not only pleasant to the touch, but it can also be beneficial in certain situations.[7] If Jagadish and Prafulla Chandra take up making a few diligent students of the country human, then both the meeting and the country will be blessed. The second way to spread science in one's homeland is to spread science in one's own language. As long as science books in Bengali do not come out, the roots of science will not be able to enter the soil of Bangladesh. We can find a universalized thought from Rabindranath Tagore". [8] He argued that our center of culture should be the center of the intellectual life of India but the center of her economic life. It must cultivate land breed cattle to lead itself and its student; it must produce.

All necessaries, devising the best means and using the best material calling science to its aid. Its very existence should depend upon the success of

its industrial ventures on the Co-operative principle, which will unite the teachers and students in a living and active bond of necessity. This will give us also practical training whose motive force is not the greed of profit." [9] Rabindranath Tagore was an extremely private person, Krishna Dutta, and Andrew Robinson; it is stated that the only friend he ever had and the only person who ever knew him has a person as a friend Jagadis Chandra Bose. He started to visit Selaidaha to meet Rabindranath Tagore. He often came to Selaidaha as a weekend visitor. He would reach on Saturday morning and return on Sunday night, to be able to teach at Presidency College on Monday morning. Every week, a new short story seemed necessary to him. As soon as he finished writing, he had to tell Jagadish Chandra first; then, he had to print it. This claim of friendship was not a way for the friend to ignore.[10] Rabindranath's wife, Mrinalini Devi, died on 23rd November 1902. After that, for two or three days, Rabindranath did not move out of the house in Jorashanko. When he first left the house, he came and stayed with Jagadish Chandra Bose for a couple of days [11]. Bose contended, "The struggle between the inner and the outer has manifested life in its various forms. At the root of both is that great power, which stimulates the living, the non-living, the molecules, and the entire universe. Life is an expression of that power."

Medicinal and Scientific Reflection on Tagore's Writings

This realization of the eternal power of life was also evoked in the mature mind of Tagore in his book "Sadhana." "The text of your everyday meditative is the Gayatri, a verse which is considered to be the epitome of all the Vedas; by its help, we try to realize the essential unity of the word with the conscious soul of man, we there to perceive the unity held together, by the one eternal spirit whose power creates the earth, the sky, and the star, and at the same time irradiates our mind with the light of a consciousness that moves and exist in unbroken continuity with the outer world.

Rabindranath, in his book "Vriksha Bandana," emphasizes Jagdish Chandra Bose and his special research on world-famous discovery the theory of the life of trees that "the tree is depicted as a heroic figure that brings life to the universes.[12] We can find out multiple glimpses of Gurudev's scientific thought in the book of "Sanchayeeta," carefully guarded in the heart of all of us. The most important poem that draws our attention to this collection is "Bisarjan." In this poem, the poet expresses a strong protest against the demon superstitions in which the life of the common people was locked up in Bengal, which is run by the contemporary so-called aristocratic or Brahmanical society. Below are some lines of his protest against a contemporary superstition, "abandonment of children in the Ganges."

This time when the boy was born, Mallika lost her husband.

The friend explained that there was sin in the previous birth,

so there was great pain in this birth.

The bereaved woman begged for forgiveness for the unknown sin.

From temple to temple, he goes from village to village to worship the god.

When a one-and-a-half-year-old child has a liver disorder, the body becomes feverish.

At that time mother, Mallika took vows at the temple. The son was made to drink Charanamrit, and the chanting of Hari shook his house.

The mother took the child in her arms and went to Janhavi river bank.

The mother appealed to the river to dissipate the baby's body heat and surrendered his child to the waters of the river. But the river returned her son.[13]

According to Shanta Debi, Gurudev also used a special oil to ward off severe mosquito bites in Santiniketan. It can be said to be the equivalent of today's Mosquito Oil. Even the smell of lemon flowers can be found in this oil. [14] For the beauty of the hair, he suggested using oil and sandalwood powder instead of the usual incense smoke. He speaks about the Human Circle; according to him, man will die and be reborn. In this case, he tried to relate the birth and death of the trees. Influenza virus or Spanish flu came to India in the last days of the First World War, with the return of Indian troops to their hometown. By 1920, the virus had become an epidemic. The students of Shantiniketan were not spared from the outbreak of this epidemic. However, Gurudev took a different path to get rid of this disease. From the very beginning, Rabindranath believed in Ayurvedic treatment and medicine. So when the residential students of Santiniketan were infected with the influenza virus, he prepared an ayurvedic medicine. Santadevi, daughter of Ramananda Chattopadhyay, editor of Prabasi Patrika, has given a special description of this Ayurvedic medicine in her Punyasmriti. He wrote that Rabindranath used to go to all the affected students and inquire about the deterioration and improvement of their health condition.[15] By analyzing the effects and symptoms of this disease, he discovered a new ayurvedic medicine known as Panchatva Pachan. Tagore prepared an Ayurvedic concoction, as the 'Panchatikta Panchan.' The ayurvedic medicine was prepared with extracts from different parts of five medicinal plants, included neem-leaves, galanga, Nishida (Nirgundi, or Vitex negundo), teuri (roots of banana), and thankuni (Centella Asiatica or Indian pennywort). These ingredients were measured and made into a fine paste and blended. This bitter Panchanwas was then administered to the ailing patients. On 1st January 1919, the poet wrote a letter to Acharya Jagadish Chandra Bose wherein he mentioned, "We are dealing with about 200 patients suffering from influenza here while the local hospital has no patients and the beds lie empty. This is a unique situation, one that I have never come across before. I wonder if the cause of this confidence emanates from the intake of the magical Ayurvedic Panchan." He believed that this miracle was only happened by applying his Ayurvedic Panchatika

Panchan regularly to students. [16]

We find the theory of physics in the discussion of Lavanya and Amit in Rabindranath's poem "Shesher Kobita," When Labanya asked Amit Roy as Amit Babu, then Amit rejected the name with Babu, So he began to argue with Labanya. Labanya offered the name Mr. Roy, but Amit replied, " That is merely a distant name from overseas. To measure the distance of a name we must see how long it takes to travel from the ear to the heart." Then Labanya told him "Let's hear the fleet-fooled name." Now Amit said that " To increase the speed one must lighten the weight, cut out Babu from Amit Babu." After that Labanya answered, " All should not be easy, That takes time." In this regard, Amit commenced that "All shouldn't take the same time there is no such thing as the watch in the universe. The pocket watch varies from pocket to pocket." That's Einstein'. [17] We can find a special reflection of Rabindranath's scientific thought in his book "Biswaparichay." In this book, he has presented important scientific information about the atomic world, the star world, the solar system, the planetary world, and the earth by adopting a literary way. At the beginning of the book, he explains in his confession, "I do not know scientific scholarship. But I have tried my best to give the idea of science in simple language." To strengthen Rabindranath's ideas about science, he swallowed books by Sir Robert Ball, Newcombs Flamingo, and Huxley, the author of the biography. [18]

Finally, an idea that finalizes the possibility of a course blossoming in us is that no knowledge can be incomprehensible within limited limits, that no subject can be confined to a particular center, that your knowledge can be universal if you wish. We find a new source of knowledge by following the path of universal knowledge that Rabindranath Tagore has defined through his writings. In each of his writings, we can get a taste of something new. As we find in his writings a mixed crop of Western philosophy as well as modern knowledge, we have repeatedly found evidence of over-reliance on Ayurveda in medicine. The enlightenment of science in the world of Rabindranath's thought has been able to create a wave of discoveries in our lake of the mind, albeit a very small one. At the same time, the fluency and sweetness of his writing have always overwhelmed us.

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